

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD C. SUDER, MARCO CORSI
and JAMES M. TRAN

Appeal No. 1997-3027
Application 08/301,926

ON BRIEF

Before THOMAS, HAIRSTON and HECKER, *Administrative Patent Judges*.

HECKER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 13, all claims pending in this application. The invention relates to an integrated circuit for driving two complimentary signals. A single

voltage breakdown preventing diode is shared with two driving transistors.

Representative independent claim 1 is reproduced as follows:

1. An integrated circuit for driving complimentary signals on two terminals comprising:

a first means for driving a signal on a first output terminal,

a second means for driving a complimentary signal on a second output terminal, and

a shared means for preventing the flow of a damaging breakdown current in either driving means resulting from an excessive externally supplied voltage on either output terminal.

The Examiner relies on the following references:¹

Khan	4,931,672	Jun. 5, 1990
Fraser et al.(Fraser)	5,173,621	Dec. 22, 1992

Appellants' Admitted Prior Art (APA) as shown in Figure 2.

Claims 1 through 13 stand rejected under 35 U.S.C.

§ 103 as being unpatentable over APA in view of Khan and

Fraser. The provisional obviousness-type double

¹Although the Answer lists Waller et al. (4,980,582) instead of Khan, the final rejection, brief and answer verify that Khan, not Waller et al. is the appropriate reference.

Appeal No. 1997-3027
Application 08/301,926

patenting rejection of claim 1 was withdrawn upon the filing of a terminal disclaimer, note Advisory Action, Paper No. 10.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief and answer for the respective details thereof.

OPINION

After a careful review of the evidence before us, we will not sustain the rejection of claims 1 through 13 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

The Examiner reasons that APA (Appellants' Figure 2) teaches the claimed invention except for the use of two Schottky diodes, instead of one. Fraser is then cited for the

use of a single Schottky diode (D431) to provide voltage breakdown protection to two transistors (Q432 and Q433). Thus, the Examiner indicates "It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Fraser et al.'s zener diode into Applicant's admitted prior art for the purpose of providing voltage protection to a pair of transistors and for using less components, which would obviously take up less space on an integrated circuit." (Answer-page 4.) The Examiner then cites Khan for teaching a plurality of differential driver circuits in an integrated circuit.

Appellants argue, "that Fraser discloses no more than was shown in Appellants' prior art,...Fraser's diode D431 protects only one output device which agrees with Appellants' admitted prior art. Fraser does not teach or suggest that two outputs are provided by transistors Q432 and Q433." (Brief-pages 5 and 6.)

The Examiner responds that the Fraser reference was used for the teaching of a single voltage protection means or zener diode connected to the collector of two separate transistors. "Therefore, it is irrelevant whether or not the

Fraser et al. reference shows only one output terminal. The Examiner is using Applicant's admitted prior art to disclose the teachings of two output terminals in a driver circuit." (Answer-page 5 and 6.)

We understand the Examiner's rational but find it ill founded. The Examiner has taken APA and found a reference with a Schottky diode connected to the collector of two separate transistors. This is hardly a reason to make a combination. We have thoroughly reviewed Fraser, and can find no teaching or suggestion in Fraser that diode D431 is used for "preventing the flow of a damaging breakdown current" (claim 1 language) or to save on the number of components or space occupied by a circuit. Also, without further illumination by the Examiner, we cannot see how "the subject matter as a whole" (answer-page 5) would have suggested the proffered combination. We do see a teaching in Khan that component count and circuit size can be reduced by the use of R2, Q9, Q6, and D2 (Figure 3) as components common to two circuits (column 11, lines 16-40). However, although Khan's teaching may be more relevant to improving APA, we see insufficient motivation for such a combination.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." ***Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc.***, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995); ***cert. denied***, 117 S. Ct. 80 (1996), ***citing W. L. Gore & Assocs. Inc. v. Garlock, Inc.***, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13.

As pointed out above, since there is no evidence in the record that the prior art suggested the desirability of replacing the two diodes of APA with a single diode, we will not sustain the Examiner's rejection of claims 1 through 13.

We have not sustained the rejection of claims 1 through 13 under 35 U.S.C. § 103. Accordingly, the Examiner's

Appeal No. 1997-3027
Application 08/301,926

decision is reversed.

REVERSED

)	
JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
KENNETH W. HAIRSTON))
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
STUART N. HECKER)	
Administrative Patent Judge)	

W. JAMES BRADY III
TEXAS INSTRUMENTS, INC.
P. O. BOX 655474 MS 219
DALLAS, TX 75265

SNH:caw